**2.1**

* 1. 5
  2. Invalid - must have \*
  3. 198.0
  4. 7
  5. 7.5
  6. 0L
  7. Invalid - integer division by 0
  8. 2.4f
  9. 35
  10. Invalid - cannot use [ ]
  11. 0.0
  12. 0.375
  13. 2
  14. 3
  15. 8
  16. 0
  17. 0
  18. 2.7
  19. 1.0
  20. 2.9f
  21. NaN
  22. -Infinity
  23. -1
  24. -0.5
  25. a \* b / (c + d)
  26. a \* b - c % d
  27. (a - b) % c / (d \* (e + f))
  28. a \* b - c / d - e / (f / g)
  29. x/2 + 4\*(y-3)
  30. x\*x\*x + y\*y\*y
  31. 2\*(x + 1)/(y - 2)
  32. (x/y + z)/(x + y/z)

1. Answers may vary

**2.2**

* 1. 0.6
  2. 2
  3. 1.0
  4. 2.0
  5. 2
  6. 1.3
  7. 1
  8. Infinity
  9. 6.1
  10. 1.0
  11. 9
  12. 5 + 22
  13. 12
  14. i \* j 2
  15. i 4
  16. 11
  17. i + j -> 47
  18. 11 <- i + j
  19. I \* j -> 28

**2.6**

* 1. -2 int
  2. 0.12 double
  3. 0.08 double
  4. 2.7 double
  5. 3 long
  6. 0.095 double
  7. 5.0 double
  8. -5.0 double
  9. 7.0 double
  10. -2.0 double
  11. 2.0 double
  12. 0.0625 double
  13. 2 long
  14. 1.1 double
  15. math.sqrt(a\*a-b\*b)
  16. Math.PI\*(Math.pow(x,6)  
       -Math.pow(y,6))
  17. 4.0/3\*Math.PI\*r\*r\*r
  18. Math.abs(Math.pow(z,4)-1)
  19. Math.log(1+x)
  20. x\*x\*Math.exp(x)

1. The value is 1. *Math.random* returns a random value in the interval 0 <= x <= 1. When cast as an *int*, the result is zero and 6\*0 + 1 = 1
   1. result = (int)  
       (10\*Math.random())+1;
   2. result = (int)  
       (52\*Math.random())+1;
   3. result = 5\*((int)  
       (20\*Math.random())+5;
   4. result = (int)  
       (11\*Math.random())-5;
   5. result = 10\*((int)  
       (21\*Math.random())+100;
   6. result = b\*((int)  
       ((k+1)\*Math.random())+a;
2. randChoice =  
    (char)(‘A’+5\*Math.random());
3. randVal = 0.25\*  
    ((int)(13\*Math.random())+4);

**2.7**

* 1. 2
  2. 2
  3. 3.6
  4. 2
  5. 4

2.

* 1. 5
  2. 20.3
  3. 0.0
  4. 0.0
  5. 6.0
  6. 8.3
  7. -10
  8. 0
  9. -1.5
  10. 0.7

3.

* 1. Unbalanced parentheses
  2. Correct
  3. Missing asterisks
  4. Correct
  5. Missing parentheses
  6. Missing parentheses

4.

* 1. 4
  2. -4.0
  3. 0.0012
  4. 16.0